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      I, Jeffrey S. Margolis am seeking answers pertaining to ground water and cold dust impacts on farmlands in close proximity to the Gateway Pacific Terminal (GPT).

      I own and operate, Everybody's Store, a General Store in eastern Whatcom County. The sale in house and by mail order, of artisan cheese is a major component of my business. One of our most profound offerings is a cheese known as Nokkelost. Traditionally regarded as a festive Norwegian delicacy, the heritage of Nokkelost with its unique combination of spices, goes back to the 11th Century and the city of Leyden in the Netherlands.   A millenium later in 2000, owing to presence of nitrates in Nokkelost manufactured in Norway, the U.S. Food and Drug Administration embargoed the commercial importation of Nokkelost cheese.

      At that juncture we chose to initiate our own American rendition of Nokkelost and at the present time Everybody's is the sole North American source for this gourmet delight. We commissioned the Pleasant Valley Dairy, located at the intersection of Grand View Road and Kickerville Road, the only dairy in the region that makes "Raw Milk Cheese" to manufacture Nokkelost for us. We advertise this cheese in "The Viking", a national Norwegian cultural magazine. After thirteen years of association we have an abiding interest in preserving the vitality of Pleasant Valley Dairy.

      Quite fundamentally, Pleasant Valley Dairy is dependent on abundant pure water for growing grass and for their cows to drink. The grass requires clean air and pure water and we would like to be assured that effluvia from GPT does not impede either the microbial cycle or that of absorption, respiration and photosynthesis.

      By virtue of its land contract GPT is entitled to 5 million gallons of water per day from PUD 1. The water, drawn from the Nooksack River, is to be used to control dust and suppress spontaneous fires.   We know that GPT has dug test wells. Are we to assume that 5 million gallons of water daily is inadequate? How much water is actually required to operate the terminal? It would appear that the wharf might have the capability of shipping more than the specified 49m tons per year because its size might be almost as accommodating as the Kooragang port in Waratagh Australia that handles 105mt. What is the water budget for this potentiality? In either case how much water might be drawn from aquifers beneath the terminal? Having read at sometime that tracers placed in the vicinity of Mt, Baker have been picked up on Orcas Island I am

under the illusion that the aquifer extends from Mt. Baker to the San Juan Islands. This needs to be examined with regards to extractive impacts especially in light of climatic changes and diminishing glacial snow pack. Will impacts involve seawater intrusion that could affect the ability of local farmers to irrigate? It is also conceivable that water used for the coal pile will be filtered and reprocessed and then be returned to the ground water aquifer. Is this the case?

What do we know about the construction and composition of the patio upon which the coal sits? I am under the impression that the "patio" is gravel. Is there some sort of filament or impermeable blanket beneath the gravel to channel 100% of leachate into a sedimentation pond? Similarly is the pond sealed or might the applicant be depending on clay to prevent the intrusion of coal water leaching into the aquifer? How would it known if this system were failing?

What is to be done with the sediment from the settling pond? What is the disposition of the water from the ponds? What water standards are being employed? In what manner is it either recycled or being disposed of? Can we be sure that water quality in aquifers as well as the ocean itself will not deviate from the level at which it currently is at?

In contradistinction to the overarching aquifer from Mt. Baker to Orcas Island, what consideration is being given to the study of proximate wells? We would not want a statistical argument that has local effects obscured by the enormity of the entire watershed. Could GPT compromise the productive ability of Pleasant Valley Dairy?

Above we raised the issue of interrupted or inhibited photosynthesis. With regard to agricultural impacts: According to G. Naidoo and Y. Naidoo published in 'Biomedical and Life Sciences Volume 13, Number 5,
Coal Dust Pollution Effects on Wetland Tree Species in Richards Bay, South Africa

"in this study, the effects of coal dust on four, sympatric, wetland tree species in Richards Bay Harbour were investigated. We tested the hypothesis that leaf micromorphology influenced dust accumulation and that coal dust occluded stomata and reduced photosynthetic performance of three mangroves, *Avicennia marina, Bruguiera gymnorrhiza* and *Rhizophora mucronata*, and a mangrove associate, *Hibiscus tiliaceus*. To investigate leaf micromorphology, leaf blade material of the four species was prepared following standard procedures and viewed under scanning electron microscopy. Gas exchange and chlorophyll fluorescence measurements were made at saturating light (>1000 µmol m^{-2} s^{-1}) and high temperature (>25 °C) on leaves that were either covered or uncovered with coal dust. There was no evidence of occlusion of

stomata by dust. Dust accumulation in *A. marina* and *H. tiliaceus* was exacerbated by the presence of a dense mat of trichomes on the undersurface of the leaves, as well as by the sticky brine secreted by salt glands in the former species. Coal dust significantly reduced CO_2 exchange, Photosystem II (PS II) quantum yield and electron transport rate (ETR) through PS II in *A. marina* and *H. tiliaceus* but not in the other two mangroves. Reduction in photosynthetic performance was attributed to reduction in light energy incident on the photosynthetic tissues.

Surely a coal dust dispersion model exists which presumes a reasonable understanding of the characteristics of coal dust dispersal. Is it possible to construct a theoretical model, a matrix of indices which quantifies fluctuating levels of agricultural production owing to varying degrees of interruption or inhibition of photosynthesis? I want to see model created and applied to the actual five mile wide sector adjacent to GPT in order to estimate the dollar value of lost agricultural production due to coal dust on plants.

It is possible to say that the national reputation of Everybody's Store's rare and premier Nokkelost cheese as well as our county's milk, greens, berries and a hoard of agricultural goods are tied to the public's perception of our region as being fairly pure and uncontaminated. A Gary Indiana or Baton Rouge it is not. The farmers and people of this region implicitly own a latent Whatcom County brand which effectively legitimizes and encourages the sale of its hearty northwest grown ag products. Will contaminated air and water from GPT undermine the good faith and trust that consumer's have in our goods?

These answerable questions, linked to the design and operation of GPT deserve to be incorporated into the GPT EIS.

Yours very truly,

Jeffrey S. Margolis